



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

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Serial No.: 9/616637

Filed: July 26, 2000

For: **Satellite Communications System Using
Multiple Earth Stations**

Attorney's Docket No: 4015-424

Patent Pending

Examiner: Lee Nguyen

Group Art Unit: 2683

RECEIVED

Raleigh, North Carolina FEB 21 2003

February 10, 2003 Technology Center 2600

Box Non-Fee Amendment
Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

In reply to the Office Action of 15 January 2003 imposing a restriction requirement, Applicant elects Group I, claims 1-35. Further, Applicant elects Species 1 of Group 1, claims 2-6, 13-20, 24-25, and 27-32. Applicant makes these elections with traverse.

The Patent Office may require restriction between two sub-combinations disclosed as usable in a single combination if at least one of the sub-combinations can be shown to be separately usable. "The examiner must show, by way of example, that one of the sub-combinations has utility other than in the disclosed combination." *MPEP 806.05(d)*.

In the Office communication dated 15 January 2003, the Examiner asserts that the invention claimed in Group I, claims 1-35, is drawn to antenna diversity while the invention claimed in Group II, claims 36-50, is drawn to multiplexing. According to the Examiner, the claims of Group II have "separate utility, such as multiplex communication." Applicant respectfully disagrees. Independent claim 36 includes "a plurality of feeder link antennas that receive feeder link signals from said at least two ground stations." Similarly, independent claim 41 includes "a feeder link antenna for receiving feeder link signals from said at least two ground stations." Therefore, while claims 36 and 41 both include multiplexer/demultiplexer features that

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process the received feeder link signals to translate the feeder link signals into something useful for the transmitter, they are also drawn to antenna diversity.

Independent claim 47 includes "receiving at said satellite the overlapping sum of said feeder link signals from said second plurality of ground stations." Similarly, independent claim 50 includes "coupling the amplified signals...to the feeds of a multiple-feed reflector antenna..." Again, while claims 47 and 50 both include multiplexing/demultiplexing features, they are also drawn to antenna diversity. Therefore, claims 36-50 do not describe a multiplexing invention that is separately useable from the antenna diversity invention described in claims 1-35. Applicant respectfully requests the Examiner withdraw the combination restriction requirement.

The Examiner also asserts that the dependent claims of Group I comprise two different species. Species I includes claims 2-6, 13-20, 24-25, and 27-32, directed to antenna elements. Species II includes claims 7-12, 21-23, and 33-35, directed to multiplexing. According to MPEP 806.04(f), claims to be restricted to different species must be mutually exclusive. Generally, if a specification discloses that a first species includes limitations not found in a second species, the species are different and properly restricted.

Applicant respectfully directs the Examiner to Figures 7 and 8 and pages 21-24. Figures 7 and 8 show at least a combination of claims 2-6 and 7-12. For example, Figure 7 shows an S-band receiver 130, also known as an S-band transponder, that receives signals from multiple mobile terminals via multiple antenna feed elements (claim 3) of a dual polarization receiving antenna. Each antenna feed couples to low noise amplifiers 133 using a Butler matrix 131 (claim 5). Further, the transponder 130 downconverts the received signals to the complex baseband (claim 7) in IF amplifiers/downconverters 136. The digital filter outputs from Figure 7 feed into the multiplexer inputs of a feeder link transmitter 140, shown in Figure 8. As described on page 24, lines 2-10, each I, Q sample stream corresponding to each antenna element is collected at a time-multiplexer 141 that multiplexes the signals with a known sample stream (claim 8).

The above example illustrates how the species defined by the Examiner are not mutually exclusive; the limitations of the first species are shown and described with the second species. Therefore, the two species are not different and the restriction is improper. Applicant respectfully requests the Examiner withdraw the species restriction.

For the foregoing reasons, the Examiner is respectfully urged to withdraw the restriction requirements. If any issues remain unresolved, Applicant asks that the Examiner call the undersigned attorney so that any such issue may be expeditiously resolved.

Respectfully submitted,

By:

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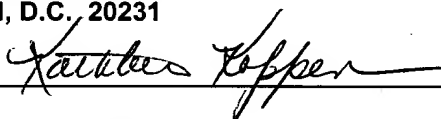
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